

APPLICATION

FOR UNITED STATES LETTERS PATENT

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SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, WHANG KWEE TAN, a citizen of MALAYSIA,  
have invented new and useful improvements in a PHOTOGRAPH ALBUM  
PAGE, SPINE AND SYSTEM of which the following is a specification:

1 PHOTOGRAPH ALBUM PAGE, SPINE AND SYSTEM

2 BACKGROUND OF THE INVENTION

3 Related Applications

4 This application is a continuation-in-part of co-  
5 pending application Serial No. 09/556,107 filed 4/21/00  
6 which is in turn a continuation-in-part of application  
7 Serial No. 09/394,466 filed 9/11/99 issued 8/29/00 as U.S.  
8 Patent No. 6,109,647; Serial No. 09/234,22 filed 1/20/99  
9 issued 12/7/99 as U.S. Patent No. 5,997,041; Serial No.  
10 09/350,612 filed 7/9/99 issued 5/2/00 as U.S. Patent No.  
11 6,056,494; Serial No. 09/369,708 filed 8/6/99 issued  
12 11/7/00 as U.S. Patent No. 6,142,696; and Serial No.  
13 09/497,837 filed 2/3/00 issued 10/24/00 as U.S. Patent No.  
14 6,135,663.

15 Field of the Invention

16 The present invention relates to a photograph album  
17 page, spine and system and more particularly pertains to  
18 displaying photographs in an album with a unique spine and  
19 pages.

20 Description of the Prior Art

21 The use of photograph album pages and spines of known  
22 designs and configurations is known in the prior art.  
23 More specifically, photograph album pages and spines of  
24 known designs and configurations previously devised and  
25 utilized for the purpose of displaying photographs through  
26 a wide variety of methods and apparatuses are known to  
27 consist basically of familiar, expected, and obvious  
28 structural configurations, notwithstanding the myriad of  
29 designs encompassed by the crowded prior art which has  
30 been developed for the fulfillment of countless objectives  
31 and requirements.

32 By way of example, United States Patent Number  
33 4,702,026 to Shaine discloses a method of making pages of  
34 a photo album. U.S. Patent Number 5,242,522 to Moir  
35 discloses a method for producing a photo album page.

1 While these devices fulfill their respective,  
2 particular objectives and requirements, the aforementioned  
3 patents do not describe a photograph album page, spine and  
4 system allowing displaying photographs in an album with a  
5 unique spine and pages

6 In this respect, the photograph album page, spine and  
7 system according to the present invention substantially  
8 departs from the conventional concepts and designs of the  
9 prior art, and in doing so provides an apparatus primarily  
10 developed for the purpose of allowing the assembly of the  
11 album with its unique spine and pages.

12 Therefore, it can be appreciated that there exists a  
13 continuing need for a new and improved photograph album  
14 page, spine and system which can be used for displaying  
15 photographs in an album with a unique spine and pages. In  
16 this regard, the present invention substantially fulfills  
17 this need.

#### 18 SUMMARY OF THE INVENTION

19 In view of the foregoing disadvantages inherent in  
20 the known types of photograph album pages and spines of  
21 known designs and configurations now present in the prior  
22 art, the present invention provides an improved photograph  
23 album page, spine and system. As such, the general  
24 purpose of the present invention, which will be described  
25 subsequently in greater detail, is to provide a new and  
26 improved photograph album page, spine and system and  
27 method which has all the advantages of the prior art and  
28 none of the disadvantages.

29 To attain this, the present invention essentially  
30 comprises a photograph album system for removably  
31 receiving and supporting photographs and like image-  
32 bearing documents for maximized convenience and aesthetic  
33 appearance is comprised of a plurality of components in  
34 combination. First provided is a spine. The spine  
35 includes a pair of parallel side walls each with a top end

1 and bottom end and an interior edge and exterior edge.  
2 The spine also includes top panel and a bottom panel.  
3 Each panel has an interior and exterior face. The top  
4 panel and bottom panel are each in parallel relationship  
5 with each other. The panels are coupled at the top of the  
6 walls and at the bottom of the walls for the receipt of  
7 pages there between. The two walls and two panels are in  
8 a rectilinear configuration. The resulting configuration  
9 has an open planar face from which pages may extend and a  
10 closed arcuate face opposite therefrom. The top panel has  
11 a fixed retainer portion with a front face and flush side  
12 walls. A plurality of recesses on the interior face of  
13 fixed retainer portion. An internal lateral groove is  
14 provided at the bottom end of each of the side walls  
15 adjacent to the bottom panel. An aperture is provided  
16 through each of the side walls at an intermediate location  
17 along a mid line of the sidewalls. Next provided are a  
18 plurality of cylindrical long posts. The long posts have  
19 opposite ends adapted to be received in the recesses. The  
20 retainer portion of the top panel of the spine is adapted  
21 for the receipt of the pages there around. A removable  
22 retainer is next provided. The removable retainer has an  
23 exterior face and a plurality of internal retaining  
24 fingers. The removable retainer is adapted to slidably  
25 couple in the groove of the spine and hold the cylindrical  
26 posts in an equally spaced configuration. Next provided  
27 is a short spine pin which passes through the side wall  
28 apertures to retain the posts in position within the  
29 spine. Lastly, a plurality of pages made from flexible  
30 paper products are provided. The plurality of pages are  
31 all defined by a plurality of signatures. The signatures  
32 are defined by a plurality of page sets. Each page set  
33 consists of an interior support sheet of a rectangular  
34 configuration having a central vertical fold defining an  
35 inner bend and a pair of outer edges. Each page set

1 further has a pair of exterior cover sheets each having a  
2 central vertical fold positioned around an individual  
3 outer edge of the interior support sheet with each fold  
4 defining an outer bend and a pair of inner edges lying in  
5 proximity to the inner bend of the interior support sheet.  
6 The inner bend is adapted to hold a cylindrical long post.  
7 The exterior covers are adhered to the interior support  
8 sheet by glue on three sides such that two pages are  
9 formed with separate pockets on each side of each page  
10 with each pocket opening toward the inner edge of the  
11 exterior cover sheet and the inner bend of the interior  
12 support sheet. The interior support sheet initially has a  
13 generally rectangular configuration having a top and  
14 bottom edge and a pair of side edges and a central axis  
15 with a pair of recesses at the top and bottom edge  
16 thereof. The interior support sheet has a series of short  
17 rectangular apertures along the central axis to facilitate  
18 bending and a pair of circular apertures located equally  
19 spaced from the central axis along a mid line of the  
20 interior support sheet. The exterior cover sheets are  
21 initially of a rectangular configuration and have a  
22 plurality of rectangular apertures aligned along the  
23 central axis which serve to frame the photograph and like  
24 image-bearing document.

25 There has thus been outlined, rather broadly, the  
26 more important features of the invention in order that the  
27 detailed description thereof that follows may be better  
28 understood and in order that the present contribution to  
29 the art may be better appreciated. There are, of course,  
30 additional features of the invention that will be  
31 described hereinafter and which will form the subject  
32 matter of the claims attached.

33 In this respect, before explaining at least one  
34 embodiment of the invention in detail, it is to be  
35 understood that the invention is not limited in its

1 application to the details of construction and to the  
2 arrangements of the components set forth in the following  
3 description or illustrated in the drawings. The invention  
4 is capable of other embodiments and of being practiced and  
5 carried out in various ways. Also, it is to be understood  
6 that the phraseology and terminology employed herein are  
7 for the purpose of descriptions and should not be regarded  
8 as limiting.

9 As such, those skilled in the art will appreciate  
10 that the conception, upon which this disclosure is based,  
11 may readily be utilized as a basis for the designing of  
12 other structures, methods and systems for carrying out the  
13 several purposes of the present invention. It is  
14 important, therefore, that the claims be regarded as  
15 including such equivalent constructions insofar as they do  
16 not depart from the spirit and scope of the present  
17 invention.

18 It is therefore an object of the present invention to  
19 provide a new and improved photograph album page, spine  
20 and system which has all of the advantages of the prior  
21 art photograph album pages and spines of known designs and  
22 configurations and none of the disadvantages.

23 It is another object of the present invention to  
24 provide a new and improved photograph album page, spine  
25 and system which may be easily and efficiently  
26 manufactured and marketed.

27 It is further object of the present invention to  
28 provide a new and improved photograph album page, spine  
29 and system which is of durable and reliable constructions.

30 An even further object of the present invention is to  
31 provide a new and improved photograph album page, spine  
32 and system which is susceptible of a low cost of  
33 manufacture with regard to both materials and labor, and  
34 which accordingly is then susceptible of low prices of  
35 sale to the consuming public, thereby making such

1 photograph album page, spine and system economically  
2 available to the buying public.

3 Even still another object of the present invention is  
4 to provide a photograph album page, spine and system for  
5 displaying photographs in an album with a unique spine and  
6 pages.

7 Lastly, it is an object of the present invention to  
8 provide a new and improved photograph album system having  
9 a spine with an internal lateral groove at one end and a  
10 removable retainer having a plurality of internal  
11 retaining fingers within the groove. A plurality of pages  
12 are defined by a plurality of signatures. Each signature  
13 is defined by a plurality of page sets. Each page set  
14 consists of an interior support sheet with a central fold  
15 and a pair of exterior cover sheets. The exterior cover  
16 sheets are folded around an individual outer edge of an  
17 interior support sheet with each having a central fold  
18 defining an outer bend. The exterior cover sheets are  
19 adhered to the interior support sheet so that two pages  
20 are formed with separate pockets on each side of each  
21 page. Posts couple the pages to the spine.

22 These together with other objects of the invention,  
23 along with the various features of novelty which  
24 characterize the invention, are pointed out with  
25 particularity in the claims annexed to and forming a part  
26 of this disclosure. For a better understanding of the  
27 invention, its operating advantages and the specific  
28 objects attained by its uses, reference should be had to  
29 the accompanying drawings and descriptive matter in which  
30 there is illustrated preferred embodiments of the  
31 invention.

#### 32 BRIEF DESCRIPTION OF THE DRAWINGS

33 The invention will be better understood and objects  
34 other than those set forth above will become apparent when  
35 consideration is given to the following detailed

1 description thereof. Such description makes reference to  
2 the annexed drawings wherein:

3 Figure 1 is a perspective illustration of a cover  
4 sheet as used in constructing the pages of the present  
5 invention.

6 Figure 2 is a top plan view of the cover sheet shown  
7 in Figure 1.

8 Figure 3 is a front elevational view of the cover  
9 sheet shown in Figures 1 and 2 shown in a flat  
10 orientation.

11 Figures 4A, 4B, 4C and 4D are perspective  
12 illustrations similar to Figures 1 and 3 but illustrating  
13 an alternate embodiment with each page adapted to receive  
14 various numbers of photographs per face rather than two.

15 Figure 5 is a perspective illustration of a support  
16 sheet utilized in association with the pages of the  
17 present invention.

18 Figure 6 is a front elevational view of the support  
19 sheet shown in Figure 5 but in a flat orientation prior to  
20 folding.

21 Figure 7 is a perspective illustration of an  
22 assembled support sheet with two cover sheets mounted  
23 thereon to thereby form a page set.

24 Figure 8 is a cross sectional view taken along line  
25 8-8 of Figure 7.

26 Figure 9 is a perspective illustration of two page  
27 sets assembled to form a single signature.

28 Figure 10 is a perspective illustration of a long  
29 cylindrical support post for retaining a single signature  
30 as shown in Figure 9.

31 Figure 11 is an exploded perspective illustration of  
32 a spine for supporting a plurality of signature.

33 Figure 12 is a cross sectional view taken along line  
34 12-12 of Figure 11.

1 Figure 13 is a perspective illustration of an  
2 assembled photograph album system but illustrating but  
3 only one of the plurality of signatures in a mounted  
4 orientation.

5 Figures 14 through 17 illustrate an alternate  
6 embodiment of the invention with a modified spine.

7 Figures 18 through 24 illustrate another alternate  
8 embodiment of the present invention with an additional  
9 modified spine construction.

10 Figures 25 through 27 illustrate yet another  
11 alternate spine construction adapted to be utilized in  
12 association with the pages of the present invention.

13 Figures 28 through 30 illustrate yet another  
14 alternate embodiment of the invention with a further  
15 modified spine construction.

16 Figures 31 through 33 illustrate a packaging system  
17 adapted to be utilized in association with the photograph  
18 album system of the present invention along with a  
19 modified page.

20 Figures 34 through 37 illustrate a cover and page  
21 construction capable of being utilized in association with  
22 the photograph album system of the present invention.

23 The same reference numerals refer to the same parts  
24 throughout the various Figures.

#### 25 DESCRIPTION OF THE PREFERRED EMBODIMENT

26 With reference now to the drawings, and in particular  
27 to Figure 1 thereof, the preferred embodiment of the new  
28 and improved photograph album page, spine and system  
29 embodying the principles and concepts of the present  
30 invention and generally designated by the reference  
31 numeral 10 will be described.

32 The present invention, the photograph album page,  
33 spine and system 10 is comprised of a plurality of  
34 components. Such components in their broadest context  
35 include a spine, a removable retainer, and a plurality of

1 pages. Such components are individually configured and  
2 correlated with respect to each other so as to attain the  
3 desired objective.

4 A photograph album system 10 for removably receiving  
5 and supporting photographs and like image-bearing  
6 documents for maximized convenience and aesthetic  
7 appearance is comprised of a plurality of components in  
8 combination. First provided is a spine 14. The spine  
9 includes a pair of parallel side walls 16 each with a top  
10 end and bottom end and an interior edge and exterior edge.  
11 The spine also includes top panel 18 and a bottom panel  
12 20. Each panel has an interior and exterior face. The  
13 top panel and bottom panel are each in parallel  
14 relationship with each other. The panels are coupled at  
15 the top of the walls and at the bottom of the walls for  
16 the receipt of pages therebetween. The two walls and two  
17 panels are in a rectilinear configuration. The resulting  
18 configuration has an open planar face 22 from which pages  
19 may extend and a closed arcuate face 24 opposite  
20 therefrom. The top panel has a fixed retainer portion 26  
21 with a front face and flush side walls. A plurality of  
22 recesses 28 on the interior face of fixed retainer  
23 portion. An internal lateral groove 30 is provided at the  
24 bottom end of each of the side walls adjacent to the  
25 bottom panel. An aperture 32 is provided through each of  
26 the side walls at an intermediate location along a mid  
27 line of the sidewalls.

28 Next provided are a plurality of cylindrical long  
29 posts 36. The long posts have opposite ends adapted to be  
30 received in the recesses 28. The retainer portion of the  
31 top panel of the spine is adapted for the receipt of the  
32 pages there around.

33 A removable retainer 42 is next provided. The  
34 removable retainer has an exterior face and a plurality of  
35 internal retaining fingers 44. The removable retainer is

1 adapted to slidably couple in the groove of the spine.  
2 After final assembly, the retainer is glued to hold the  
3 cylindrical posts in an equally spaced configuration.  
4 Next provided is a short spine pin 48 which passes  
5 through the side wall apertures to retain the posts in  
6 position within the spine.  
7 Lastly, a plurality of pages 52 made from flexible  
8 paper products are provided. The plurality of pages are  
9 all defined by a plurality of signatures 54, only one of  
10 which is shown. The signatures are defined by a plurality  
11 of page sets 56. Each page set consists of an interior  
12 support sheet 58 of a rectangular configuration having a  
13 central vertical fold defining an inner bend 60 and a pair  
14 of outer edges 62. Each page set further has a pair of  
15 exterior cover sheets 64 each having a central vertical  
16 fold positioned around an individual outer edge of the  
17 interior support sheet with each fold defining an outer  
18 bend 66 and a pair of inner edges 68 lying in proximity to  
19 the inner bend of the interior support sheet. The inner  
20 bend is adapted to hold a cylindrical long post. The  
21 exterior covers are adhered to the interior support sheet  
22 by glue 70 on three sides such that two pages are formed  
23 with separate passageways 72 on each side of each page  
24 with each passageway opening toward the inner edge of the  
25 exterior cover sheet and the inner bend of the interior  
26 support sheet. The interior support sheet initially has a  
27 generally rectangular configuration having a top and  
28 bottom edge and a pair of side edges and a central axis  
29 with a pair of recesses 74 at the top and bottom edge  
30 thereof. The interior support sheet has a series of short  
31 rectangular apertures 76 along the central axis to  
32 facilitate bending and a pair of circular apertures 78  
33 located equally spaced from the central axis along a mid  
34 line of the interior support sheet. The exterior cover  
35 sheets are initially of a rectangular configuration and

1 have a plurality of rectangular apertures 80 aligned along  
2 the central axis which serve to frame the photograph and  
3 like image-bearing document.

4 An alternate embodiment of the invention is shown in  
5 Figure 4A wherein the cover sheets 64A are cut with  
6 openings 80A to receive six photographs per page set,  
7 three on each face of each page, on opposite sides of the  
8 fold line 80A. Figures 4B, 4C and 4D illustrate alternate  
9 constructions of the cover sheets 64B, 64C and 64D. In  
10 the Figure 4B embodiment, the cover sheet 64B has six  
11 openings 70B on each side of the fold line 66B. Four  
12 horizontal glue lines 70B are above and below each  
13 opening. Insertion and removal of photographs is  
14 facilitated by vertical slots 70B between the laterally  
15 spaced openings of each face of each page. The Figure 4C  
16 embodiment is cut to form three landscape oriented  
17 openings 80C on each side of the centerline 66C with glue  
18 lines 70C above and below, and with two portrait oriented  
19 openings laterally spaced therefrom. A horizontal slot  
20 84C is located between the portrait oriented openings on  
21 each side for picture insertion and/or removal. The  
22 embodiment of Figure 4D features openings 80D of various  
23 sizes and orientations on each side of the fold line 66D.  
24 Glue lines 870D are vertically positioned on opposite  
25 sides of the openings with slots 84D adjacent to each  
26 opening 80D for picture insertion and/or removal.

27 The present invention relates to a photograph album  
28 made with a special spine and special designed paper  
29 pages. The special spine is an improvement over the  
30 spines of our previous patent applications. Such  
31 improvement enables easier and smoother assembly.

32 The special pages are preferably made from paper,  
33 which will give the photograph album a sense of value  
34 because most of the high-end photograph albums are

1 associated with paper. Low-end photograph albums are  
2 associated with plastic pockets.

3 The album pages actually look like paper frames. The  
4 whole album is, therefore, consisted of a number of paper  
5 frames together with a cover. There are some processes  
6 needed to be done before the pages could be assembled  
7 together to become a photograph album.

8 The paper pages are made up of three components, one  
9 centerpiece or support sheet and two frame pieces or cover  
10 sheets. To produce the support sheet, one piece of paper  
11 is die-cut with rectangular holes along the centerline  
12 with pressed lines on the two sides of the rectangular  
13 spots. The support sheet is then folded along the center  
14 to become two pages with the center attached. The purpose  
15 to have die-cut rectangular holes is to align the pages  
16 and to make the pages more straight during assembling the  
17 pages into the album.

18 To make the cover sheets, two pieces of identical  
19 size paper are needed, the two pieces of page are then  
20 die-cut into frames, the size and the number of cover  
21 sheets on each page is determined by the size and number  
22 of photographs the album is designed to accommodate. Each  
23 of the papers with the die-cut cover sheets is folded  
24 symmetrically to create two pages with the center  
25 attached.

26 The next step is to apply adhesive on the die-cut  
27 cover sheets. It is important that the amount of adhesive  
28 applied will not block the inserting of the pictures, so  
29 only an adequate amount will do. It is important to note  
30 that the adhesive will only be applied horizontally by an  
31 automatic dispenser. This dispenser will apply adhesive  
32 in a linear form making production effectively and  
33 efficiently. The next step is to combine the cover sheet  
34 and the support sheet together to form the complete page.

1       The pages are then hung onto poles, preferably two  
2 pages per pole to form a signature. As mentioned earlier,  
3 there are die-cut indentations along the center of the  
4 centerpiece. If two identical pages are stacked together  
5 without the die-cut indentations, the pages will not be  
6 straight and aligned because of the thickness. With the  
7 die-cut indentations, however, the pages will tend to be  
8 aligned and straight if the die-cut portions of the page  
9 allow the other non die cut portions of the page to slot  
10 in. The next step is to insert a pole vertically into the  
11 pages to lock and keep the pages and the poles together.

12       The pages are to be installed into a specially  
13 designed spine holder. This holder is an improvement of  
14 the previous spine of our prior patent applications. The  
15 spine holder is, preferably, made by injection moldings.  
16 There are actually two separate units to this holder, one  
17 part for holding the pages and the other is for locking  
18 the pages. Once the pages are installed into the holding  
19 part of the holder, the locking part of the holder will  
20 then lock the pages from falling out.

21       The holder has two long parallel walls and two short  
22 parallel walls. One side of the holder is enclosed shaped  
23 like an arc or made with a plurality of bridges in-between  
24 the two long walls running parallel with the two short  
25 walls to save material. The enclosed side or the bridges  
26 are used to keep the poles with pages in position and not  
27 to fall out of the holder. There are some indented slots  
28 in one of the short walls for the holding of the pages.  
29 There are indented slots on the locking part as well.  
30 They serve the same function to hold and keep the poles  
31 with pages in position.

32       It should be understood that the primary embodiment  
33 of the present invention includes a new and useful and  
34 unobvious spine construction as well as a new and useful  
35 and unobvious page construction. It should be understood

1 that the spine is adapted to receive a wide variety of  
2 pages. Additionally, a wide variety of spines could be  
3 used with the pages.

4 An alternate embodiment of the invention is  
5 illustrated in Figures 14 through 17. In this embodiment  
6 the spine is modified to receive pages as described in the  
7 primary embodiment.

8 Still another alternate embodiment with an additional  
9 modified spine is shown in Figures 18 through 24.

10 Yet another alternate spine construction adapted to  
11 be utilized in association with the pages of the present  
12 invention is shown in Figures 25 through 27.

13 Even yet another further modified spine construction  
14 is shown in another alternate embodiment of the invention  
15 in Figures 28 through 30.

16 A packaging system adapted to be utilized in  
17 association with the photograph album system of the  
18 present invention is shown in Figure 31 through 33 along  
19 with a modified page.

20 A cover and page construction capable of being  
21 utilized in association with the photograph album system  
22 of the present invention is shown in Figures 34 through  
23 37. Such cover, as well as the pages of figures 17A, 33  
24 and 35, could be utilized with the spine as described in  
25 the primary embodiment.

26 Further details of construction for these alternate  
27 embodiments to spine constructions, packaging  
28 arrangements, and supplemental covers may be had in  
29 greater detail by reference to copending U.S. Patent  
30 Application Serial Number 09/556,107 filed April 21, 2000  
31 and U.S. Patent Number 6,109,657, as well as the patent  
32 applications and patents thereof as recited herein above,  
33 the subject matter of which is incorporated there in by  
34 reference.

1 As to the manner of usage and operation of the  
2 present invention, the same should be apparent from the  
3 above description. Accordingly, no further discussion  
4 relating to the manner of usage and operation will be  
5 provided.

6 With respect to the above description then, it is to  
7 be realized that the optimum dimensional relationships for  
8 the parts of the invention, to include variations in size,  
9 materials, shape, form, function and manner of operation,  
10 assembly and use, are deemed readily apparent and obvious  
11 to one skilled in the art, and all equivalent  
12 relationships to those illustrated in the drawings and  
13 described in the specification are intended to be  
14 encompassed by the present invention.

15 Therefore, the foregoing is considered as  
16 illustrative only of the principles of the invention.  
17 Further, since numerous modifications and changes will  
18 readily occur to those skilled in the art, it is not  
19 desired to limit the invention to the exact construction  
20 and operation shown and described, and accordingly, all  
21 suitable modifications and equivalents may be resorted to,  
22 falling within the scope of the invention.